**NAME: ……………………………………….SCHOOL: …………..………………..**

**443/2**

**AGRICULTURE**

**PAPER 2**

**DECEMBER, 2020**

**TIME: 2 HOURS**

**LANET CLUSTER JOINT EXAMINATION (LANJET) -2020**

**443/2**

**AGRICULTURE**

**PAPER 2**

**DECEMBER, 2020**

**TIME: 2 HOURS**

**MARKING SCHEME**

**SECTION A: (30 MARKS)**

1. State the use of each of the following tools . (11/2mks)

(i) Strip cup:

**Test for mastitis in milk**

(ii) Sickle:

**Harvesting rice and other grains/cutting pyrethrum stalks/harvesting fodder e.g grasses.**

(iii) Stock and die:

**Cutting threads on pipes**

1. Name two reasons why rabbit’s hutches should be raised above the ground. (1mks)
* **To ensure security from predators e.g dogs**
* **To allow droppings to fall down**
* **To hasten the drying of the beddings**
1. Name two predisposing factors of coccidiosis,. (1mks)
* **Dampness/wetness**
* **Dirty/filthy conditions**
* **overcrowding**
1. Define the following terms as used in livestock production.

(i) Crutching (1mk)

**- cutting wool around the eternal reproductive organs of a female sheep.**

(ii) Farrowing: (1mk)

* **Act of giving birth/parturition in pigs. (1mk)**
1. Name the infective stage of the liver flake in livestock. (1mk)
* **Metacercarcia**
1. State four disadvantages of using human power instead of tractors as a source of power in a farm.

(2mks)

* **Can only do light tasks compared to tractor**
* **Produces low quality work**
* **Takes long to perform tasks**
* **Human sometimes get sick**
* **Human power is unreliable**
1. Name two tractors drawn implements attached to the tractor at one- point hitch. (1mks)
* **Trailer**
* **Heavy harrows**
* **Manure spreaders**
* **Planters**
* **Sprayers**
* **Rollers**
1. Distinguish between pen mating and flock mating in poultry. (2mks)
* **Pen mating: use of only one cock to mate a flock of hens**
* **Flock mating: Two or more cocks are used to mate hens**
1. Give two ways in which proper breeding and selection helps to control livestock diseases. (1mk)
* **Ensures healthy breeding stock to prevent breeding diseases**
* **Selection of disease-resistant animals helps in controlling diseases.**
1. (a) Name two types of feed additives. (1mk)
* **Hormones**
* **Medicants**
* **Antibiotics**
* **Mineral licks**
* **Sweeteners e.g molasses**

(b) Give two reasons why it is important to include additives in commercial feeds. (1mk)

* -**stimulate growth**
* **Improves feed conversion efficiency**
* **Guard against diseases**
* **Make feed palatable**
1. (a) Name four pig breeds commonly reared in Kenya. (2mks)
* **Large white**
* **Land race**
* **Sadlebacks**
* **Berkshire**
* **Duroc jessey**
* **Middle white**

(b) Name four characteristics of dairy cattle breeds. (2mks)

* **wedged shaped**
* **Straight top line**
* **Well set apart hindquarters**
* **Large well developed udder**
* **Large well spaced teats**
* **Prominent milk veins**
* **Poorly/lean bodies**
* **Large stomach capacity**
* **Thin neck**
1. Outline four qualities of eggs used for incubation. (2mks)
* **Should be fertilized**
* **Should be clean**
* **Should not be more than 8-10days old**
* **Should be medium sized**
* **Should have smooth shells**
* **Should have not cracks**
* **Should have no abnormalities**
1. (a) Name two hormones that control milk let down in dairy cow. (1mk)
* **Oxytocin**
* **Adrenaline**

(b) State four factors that influence milk let – down. (2mks)

* **Presence of the calf**
* **Presence of the milkman**
* **Rattling of milking equipment**
* **Familiar sounds e.g whistling**
* **Washing of udder with warm water**
* **Feeding**
* **Sight of the milk parlour**
* **Consistent milking time**
1. State four reasons why bees may swarm from a hive . (2mks)
* **Shortage of food and water**
* **Outbreak of diseases and parasites**
* **Damage of brood combs**
* **Lack of adequate ventilation**
* **Dampness and bad smell**
* **Sick/infertile queen/death**
* **Overcrowding**
1. Name three sources of water in the body of livestock. (11/2mks)
* **From drinking water. (free water0**
* **From food taken 9bound water0**
* **From metabolism (metabolic water)**
1. Name four cattle diseases whose outbreak calls for quarantine. (2mks)
* **Foot and mouth**
* **Anthrax**
* **Rinderpest**
* **Lumpy skin disease**
* **Rabies**
1. State two functions of ventilation in a pig house. (1mk)
* **Allows efficient air circulation**
* **Moderates temp**
* **Prevents humid conditions in the house**

**SECTION B: (20MARKS)**

1. The diagram below shows a farm implement used by small scale farmers for several operations in the farm. Study it carefully and then answer the questions that follow.

 

A

B

C

(a) Identify the implement. (1mk)

**- ox - plough**

(b) State the function of the part labeled A, B and C. (3mks)

A- **Attachment of other parts of the plough**

B - **Controls depth of ploughing**

C- **Makes horizontal cutting and initiate turning of furrow slice**

( c) Apart from land preparation, state any other one operations that can be done using the above

 implement. (1mk)

* + - **Opening furrows for planting**
1. The illustration below shows an engine cylinder.

 

(i) Identify the parts labeled P, Q, R and S (2mks)

**P. - Outlet valve**

**R - Inlet valve**

**Q- Spark plug**

**S - Crank shaft**

(ii) Give the function of the part labeled Q above. (1mk)

* + **Produces a spark that ignites the fuel air mixture**

(iii) Give two disadvantages of four-stroke engines. (2mks)

* + **Expensive to buy**
	+ **Limited in certain areas**
	+ **Requires skilled personnel**
	+ **Expensive to maintain**
1. The activity illustrated below indicates a task undertaken in farm animals.



(i) Name the above activity. (1mk)

 - **Dry cow therapy**

(ii) State the importance of the above activity. (1mk)

**Prevent mastitis infection during dry period**

(iii) Name the disease controlled by the above practice. (1mk)

 **Mastitis**

(iv) Name two other diseases that only attack female cattle. (2mks)

* + **Milk fever**
	+ **Vaginitis**
1. Below in a diagram showing parts of a fence. Use it to answer the questions that follow.

H

 K

K



J

J

(a) Identify the type of fence above. (1mk)

**Barbed wire fence rej. Wire fence**

(b) Name the parts labeled H and J. (2mks)

 **H- king/corner post**

 **J – Standard post**

(c) What is the role of the part labeled K? (1mk)

**Add support to the King post**

(d) On the diagram, draw a dropper in the right position. (1mk)

 **- NB: The dropper should be between two standards interwoven btw the wire**

 **strands and not touching the ground**

**SECTION C: (40MARKS)**

1. (a) Discuss bloat under the following sub-headings.

((i) Species of animals effected. **cattle, sheep, goats**  (3mks)

(ii) Causes of the disease.

* + **Obstruction of the esophagus**
	+ **Abnormal pressure on the esophagus due to swelling**
	+ **Indigestion**
	+ **Feeding animal on lush pastures**
* (4mks)

(iii) Symptoms

* + **Distension of left side of abdomen**
	+ **Difficulty in breathing**
	+ **Profuse salivation**
	+ **Animal lies down an is unable to stand**
	+ **Grunting and kicking at the belly**
	+ **Death within hours**

(iv) Control. (2mks)

* + **Provide dry roughages**
	+ **Feed animals on wilted grass and pasture legumes**

(b) Discuss various types of tools required to construct a barbed wire fence. (5mks)

* + **Tape measure: to determine distances between posts.**
	+ **Sharpened sticks: to mark points for holes**
	+ **Hole digger: To dig holes where posts are to be placed.**
	+ **A pair of pliers. To cut the wire/tighter/splice the wire**
	+ **Claw hammer: to drive in and remove fencing staples/nails**
	+ **Wire strainer: To stretch/ strengthen the wire strands**
	+ **Ramming stick: For firming concrete around the fencing posts.**
1. (a) Describe various cultural uses of livestock. (8mks)
* **Status symbols: one is regarded wealthy on owning large herds of cattle, sheep or goats.**
* **Medium of exchange: livestock were used during barter trade**
* **Social ceremonies: Ceremonies like marriage and funerals had live or slaughtered animals.**
* **Recreational purpose. Some activities like cock fighting, bull fighting, made people utilize their time constructively.**

(b) Describe various livestock rearing practices. (12mks)

* **Feeding – enhances maintenance and productivity of the animal. Also important in preventing diseases in animals**
* **Parasite and disease control. Ensures animals remain healthy and productive**
* **Breeding practices: Ensures multiplication of healthy animals**
* **Identification: Facilitates record keeping and other aspects of livestock management**
* **Debeaking: important in poultry to control vices e.g cannibalism and egg eating**
* **Tooth clipping: Removal of canine teeth in piglet 24 hours after birth**
* **Culling: removal of unproductive animals from a breeding herd.**
1. (a) State four functions of vitamins in livestock nutrition. (4mks)
* **Promote growth**
* **Help in blood clotting**
* **Help in bone formation**
* **Help in muscular activity**
* **Prevents disease in animals**
* **Act as organic catalysts in various metabolic and physiological reactions.**

(b) Tabulate the differences between digestion in ruminants and non-ruminants. (6mks)

|  |  |
| --- | --- |
| **Ruminants** | **Non - ruminants** |
| **(i) chew cud** |  **- Do not chew cud** |
| **(ii) Have four stomach chamber (poly** | * **Have one stomach chamber (mono-gastric**
 |
| **(iii) Regurgitate food** | * **Cannot regurgitate food once swallowed**
 |
| **(iv) Digest cellulose** | * **Cannot digest cellulose**
 |
| **(v) Have no ptyalin in saliva** | * **Have ptyalin in saliva**
 |
| **(vi) Most digestion and absorption takes place in the rumen** | * **Most digestion and absorption takes place in the small intestines**
 |
| **(vii) have alkaline saliva due to presence of ammonia** | * **Have neutral saliva**
 |

***(Reject if the difference is not correct for both)***

(c ) Discuss the components of the cooling system of a tractor. (10mks)

* **Radiator- Cools water by convectional current using radiator tubes**
* **Water pump: maintains circulation of water in the system**
* **Fan: Blow air into the radiator**
* **Thermostat: Regulates temperature by connecting and disconnecting circuit.**
* **Temperature gauge: Located on dash board and indicate engine temperature for the driver.**